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LIMBACH & LIMBACH L.L.P.
2001 Ferry Building, San Francisco, CA 94111
415/433-4150

Address to:

Box Patent Application
Assistant Commissioner for Patents
Washington, D.C. 20231

Attorney's Docket No. SONY-U0148

First Named Inventor YUKA SAKAZUME

UTILITY PATENT APPLICATION TRANSMITTAL
(under 37 CFR 1.53(b))

SIR:

Transmitted herewith for filing is the patent application entitled:
COMMUNICATION SYSTEM AND COMMUNICATION METHOD SHARING COMMUNICATION
DATA AMONG A PLURALITY OF COMMUNICATION TERMINALS

CERTIFICATION UNDER 37 CFR § 1.10

I hereby certify that this New Application and the documents referred to as enclosed herein are being deposited with the United States Postal Service on this date September 5, 2000, in an envelope bearing "Express Mail Post Office To Addressee" Mailing Label Number EL254113213US addressed to: Box Patent Application, Assistant Commissioner for Patents, Washington, D.C. 20231.

Susan Ozanne

(Name of person mailing paper)

(Signature)

Enclosed are:

1. ☒ Transmittal Form (two copies required)
2. The papers required for filing date under CFR § 1.53(b):
 - i. 33 Pages of specification (including claims and abstract);
 - ii. 7 Sheets of drawings.
☒ formal ☐ informal
3. Declaration or oath
 - a. ☒ Newly executed (original or copy) Combined with Power of Attorney

ACCOMPANYING APPLICATION PARTS

4. ☒ An assignment of the invention to Sony Corporation is attached (including Form PTO-1595).
 - i. ☐ 37 CFR 3.73(b) Statement (when there is an assignee)
5. ☒ Power of Attorney (Combined with Declaration)
6. ☐ An Information Disclosure Statement (IDS) is enclosed, including a PTO-1449 and copies of ☐ references.
7. ☐ Preliminary Amendment.
8. ☒ Return Receipt Postcard (MPEP 503 -- should be specifically itemized)
9. FOREIGN PRIORITY
 - [x] Priority of application no. P11-275715 filed on September 29, 1999 in Japan is claimed under 35 USC 119.

The certified copy of the priority application:

- ☒ is filed herewith; or
☐ has been filed in prior application no. ☐ filed on ☐, or
☐ will be provided.

☐ English Translation Document (if applicable)

10. FEE CALCULATION

- a. ☐ Amendment changing number of claims or deleting multiple dependencies is enclosed.

CLAIMS AS FILED

	Number Filed	Number Extra	Rate	Basic Fee (\$690)
Total Claims	12 - 20	* 0	x \$18.00	0
Independent Claims	4 - 3	* 1	x \$78.00	78.00
<input type="checkbox"/> Multiple dependent claim(s), if any			\$260.00	0

*If less than zero, enter "0".

Filing Fee Calculation \$768.00

50% Filing Fee Reduction (if applicable) \$

11. Small Entity Status

- a. ☐ A small entity statement is enclosed.
b. ☐ A small entity statement was filed in the prior nonprovisional application and such status is still proper and desired.
c. ☐ is no longer claimed.

12. Other Fees

- ☒ Recording Assignment [\$40.00] \$40.00
☐ Other fees
Specify _____ \$0

Total Fees Enclosed \$808.00

13. Payment of Fees

- ☒ Check(s) in the amount of \$ 808.00 enclosed.
☐ Charge Account No. 12-1420 in the amount of \$ ____.
A duplicate of this transmittal is attached.

14. All correspondence regarding this application should be forwarded to the undersigned attorney:

Charles P. Sammut
Limbach & Limbach L.L.P.
2001 Ferry Building
San Francisco, CA 94111
Telephone: 415/433-4150
Facsimile: 415/433-8716

15. Authorization to Charge Additional Fees

- ☒ The Commissioner is hereby authorized to charge any additional fees (or credit any overpayment) associated with this communication and which may be required under 37 CFR § 1.16 or § 1.17 to Account No. 12-1420. **A duplicate of this transmittal is attached.**

LIMBACH & LIMBACH L.L.P.

September 5, 2000
(Date)

Attorney Docket No. SONY-U0148
[S00P1148US00]

By: _____

Charles P. Sammut
Registration No. 28,901
Attorney(s) or Agent(s) for Applicant(s)

**COMMUNICATION SYSTEM AND COMMUNICATION METHOD
SHARING COMMUNICATION DATA AMONG A PLURALITY OF
COMMUNICATION TERMINALS**

5 BACKGROUND OF THE INVENTION

1. Field of the Invention

The present invention relates to a communication system and a communication method, in particular, to a communication system and a communication method in which
10 a phone number which is commonly used only among communication terminals of a specific group consisting of members registered in a network is secured and a message can be transmitted/received at an arbitrary point in time.

2. Description of Related Art

15 Conventionally, only one phone number has been assigned for a communication terminal (or a communication line). Therefore, in a case of communication with a plurality of people, one must know respective phone numbers of communication terminals of all the target
20 destinations and carry out individual communication for each destination even if the communication contents are the same.

As a prior art technique related to this field, numerous patent applications in relation with a sound
25 multiplex system for teleconference have been filed.

In addition, including Magic-Box of NTT (Nippon Telegraph and Telephone Corporation), techniques to execute a function of an answering machine are known to public.

30 Further, the Internet technology, which a provider relays is also known to public.

By the way, conventionally, it has been necessary to know phone numbers of the communication terminals of all of communication destinations for communicating with a plurality of people, which makes the management of the
5 phone numbers of the communication destinations troublesome.

In addition, it brings a problem that the labor and time required for communication with individual persons become enormous.

10 Furthermore, in a case where a subscriber of a network possesses and manage a plurality of communication terminals, the subscriber owns a plurality of phone numbers, each number corresponding to each of the plurality of communication terminals, which causes
15 management the phone numbers terrible.

According to the technique of the above-described sound multiplex system for teleconference, all the members should participate in the communication at the same time, and it is not possible for a member to
20 transmit a message to another member and to receive a message from another member to him/her at an arbitrary point time.

In addition, according to the Magic-Box of NTT (Nippon Telegraph and Telephone Corporation), a function
25 of an answering machine of a local line is merely provided externally and the problem of complexity on management due to one-to-one correspondence between a communication terminal (telephone) and a phone number is not solved.

30 Furthermore, according to the Internet technology, it is necessary to set up a personal computer and to

contract with an Internet service provider in addition to have a communication terminal (telephone). Even in a bulletin board function, confidentiality only among the members cannot be always guaranteed.

5

SUMMARY OF THE INVENTION

The present invention has been made in view of the above described problems in the conventional communication system, and an object of the present
10 invention is to provide a communication system which is capable of securing a phone number which is common only among communication terminals of specified members, which have been registered in a network, and transmitting/receiving a message at an arbitrary point of
15 time.

Another object of the present invention is to provide a communication method which is capable of securing a phone number which is common only among communication terminals of specified members, which have
20 been registered in a network, and transmitting/receiving a message at an arbitrary point of time.

According to the present invention, in order to solve the above-mentioned problem, there is provided a communication system in which a plurality of
25 communication terminals, which are connected to a network including a Public Switched Network in a category thereof, mutually communicate through communication data addressed to a common phone number issued by a communication terminal being a management terminal, which comprises a
30 phone number management unit, a message management unit and a bulletin board unit provided in said network; means

for registering a predetermined communication terminal so
as to correspond to the issued common phone number by
sending an identification name of the predetermined
communication terminals of the plurality of communication
5 terminals to the phone number management unit in
correspondence with the common phone number issued from
the management terminal; means for sending a message file
sent by accessing from a registered communication
terminal to the common phone number to other registered
10 communication terminals when a first mode in which the
message file is to be directly sent to the other
communication terminals is selected, and leaving the
message file in the message management unit when a second
mode in which any registered communication terminal
15 accesses to the message management unit to receive the
message file is selected; means for leaving a message
sent by accessing from a registered communication
terminal to the common phone number on the bulletin board
unit; and means for reading at any time the message file
20 left in the message management unit, in a case where the
message file is left in the message management unit, and
the message left on the bulletin board unit, in a case
where the message is left on the bulletin board unit,
from an arbitrary one of the other registered
25 communication terminals.

Furthermore, there is provided a communication
system in which a plurality of communication terminals,
which are connected to a network including a Public
Switched Network in a category thereof, mutually
30 communicate through communication data addressed to a
common phone number issued by a communication terminal

being a management terminal, which comprises a phone number management unit, a message management unit and a bulletin board unit provided in said network; means for registering, after being accessed by an arbitrary one of the plurality of communication terminals using the issued common phone number and receiving a confirmation by the management terminal, the arbitrary one of the communication terminals in correspondence with the common phone number issued from the management terminal; means for sending a message file sent by accessing from a registered communication terminal to the common phone number to other registered communication terminals when a first mode in which the message file is to be directly sent to the other communication terminals is selected, and leaving the message file in the message management unit when a second mode in which any registered communication terminal accesses to the message management unit to receive the message file is selected; means for leaving a message sent by accessing from a registered communication terminals to the common phone number on the bulletin board unit; and means for reading at any time the message file left in the message management unit, in a case where the message file is left in the message management unit, and the message left on the bulletin board, in a case where the message is left on the bulletin board unit, from an arbitrary one of the other registered communication terminals.

Furthermore, there is provided a communication method in which a plurality of communication terminals, which are connected to a network including a Public Switched Network in a category thereof, mutually

communicate through communication data addressed to a common phone number issued by a communication terminal being a management terminal, in which the network is provided with a phone number management unit, a message management unit and a bulletin board unit, and the method comprises the steps of: registering a predetermined communication terminal so as to correspond to the issued common phone number by sending an identification name of the predetermined communication terminal of the plurality of communication terminals to the phone number management unit in correspondence with the common phone number issued from the management terminal; sending a message file sent by accessing from a registered communication terminal to the common phone number to other registered communication terminals when a first mode in which the message file is to be directly sent to the other communication terminals is selected, and leaving the message file in the message management unit when a second mode in which any registered communication terminal accesses to the message management unit to receive the message file is selected; leaving a message sent by accessing from a registered communication terminals to the common phone number on the bulletin board unit; and reading at any time the message file left in the message management unit or the message left on the bulletin board unit from an arbitrary one of the registered communication terminal.

Furthermore, there is provided a communication method in which a plurality of communication terminals, which are connected to a network including a Public Switched Network in a category thereof, mutually

communicate through communication data addressed to a common phone number issued by a communication terminal being a management terminal, in which the network is provided with a phone number management unit, a message management unit and a bulletin board unit, and the method comprises the steps of: registering, after being accessed by an arbitrary one of the plurality of communication terminals using the issued common phone number and receiving a confirmation by the management terminal, the arbitrary one of the other communication terminals in correspondence with the common phone number issued from the management terminal; sending a message file sent by accessing from a registered communication terminal to the common phone number to other registered communication terminals when a first mode in which the message file is to be directly sent to the other communication terminals is selected, and leaving the message file in the message management unit when a second mode in which any registered communication terminal accesses to the message management unit to receive the message file is selected; leaving a message sent by accessing from a registered communication terminals to the common phone number on the bulletin board unit; and reading at any time the message file left in the message management unit, in a case where the message file is left in the message management unit, and the message left on the bulletin board unit, in a case where the message is left on the bulletin board unit, from an arbitrary one of the other registered communication terminals.

That is, the present invention provides means for mutually transmitting communication data between members

networked with a common phone number issued by a management terminal in a network including a Public Switched Network in a category thereof. Therefore, in the network, a phone number management center which
5 manages members registered in correspondence with the common phone number issued from the management terminal is provided as well as a message center and a bulletin board which are accessed through the common phone number and can store the communication data therein.

10 There are two modes for registering members, one in which a prescribed member is designated upon issuing the common phone number from the management terminal, and the other in which one of unspecified number of users inside the network is added as a member with agreement at the
15 management terminal when the user accesses the common phone number.

The user who accesses the common phone number is determined whether or not he/she is a registered member by the phone number management center. Communication
20 data stored in the message center or the bulletin board can be taken out using any registered communication at times.

In a case where the communication data is a message file, different from a case of a message, the message
25 file itself or a notice informing that the message file arrives at the message center is delivered to all of the registered communication terminal.

In a case where the communication data is a message, the message is left on the bulletin board and the members
30 access the bulletin board to read the message.

Here, both the "message file" and the "message"

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consist of any of voice data, image data and text data or a combination thereof. The "message file" can be directly transmitted. In a case where a "message file" left in the message center consists of voice data, one can hear the "message file" and in another case of the "message file" consisting of image data and text data, one can download the "message file". However, in any case, the "message file" cannot be seen or read through a display screen. On the other hand, the "message" left on the bulletin board can be seen, read and heard through a display screen in a condition that the "message" is on the bulletin board. In addition, it is also possible to download the "message" if one instructs through the display screen to download the "message".

15

BRIEF DESCRIPTION OF THE DRAWINGS

These and other objects and advantages of the present invention will become more apparent and more readily appreciated from the following detailed description of the presently preferred exemplary embodiments of the present invention taken in conjunction with the accompanying drawings of which:

Fig. 1 is a block diagram showing a configuration of a communication system and a mechanism of registering members according to a first embodiment of the present invention;

Fig. 2 is a block diagram showing a mechanism of message transfer in the communication system according to the first embodiment of the present invention;

Fig. 3 is a block diagram showing a mechanism of a bulletin board function of the communication system

according to the first embodiment of the present invention;

Fig. 4 is a block diagram showing a configuration of a communication system and a mechanism of registering members according to a second embodiment of the present invention;

Fig. 5 is a block diagram showing a mechanism of message transfer in the communication system according to the second embodiment of the present invention;

Fig. 6 is a block diagram showing a mechanism of a bulletin board function of the communication system according to the second embodiment of the present invention; and

Fig. 7 is a flowchart showing an operation of exchange processing on a network of the communication systems according to the first and second embodiments of the present invention.

DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENTS

Now, preferred embodiments of the present invention will be described in reference to the accompanied drawings.

(First Embodiment)

Fig. 1 is a configuration of a communication system according to a first embodiment of the present invention and a mechanism of registering members thereof.

The communication system according to the present embodiment includes a network having a Public Switched Network in a category; a communication terminal A being a contractant of a community, which is connected to the network 1; communication terminals B, C, D which are to

be registered as members; and a connecting phone number management center 2.

Each of the communication terminals connected to the network has an identification name. The
5 identification name may be a telephone number, an E-mail address and some kind of identification number, assigned to each of the communication terminals. In a case where the communication terminal is capable of using a medium, the identification name may be some kind of
10 identification number assigned to the medium.

Now, an operation of registering members in the communication system according to the present embodiment will be described.

At Step S1, the communication terminal A designates
15 the other members (in this case, the communication terminals B, C, D) of a specific community to be constructed now, and issues a "connecting ID". The "connecting ID" is, in specific, a "connecting phone number", which is common among registered members in a
20 community. The communication terminal A transfers data with regard to the members of the specific community to be constructed and the issued "connecting ID" (that is, the "issued connecting phone number") to the connecting phone number management center 2.

25 Once the "connecting ID", that is, the connecting phone number, is issued, a confirmation on accepting the connecting phone number is sent to the designated communication terminals B, C, D from the connecting phone number management center 2, at Step S2.

30 At Step S3, if the designated communication terminal agrees to accept the connecting phone number, a

user of the communication terminal in agreement becomes an official member of the specific community, and then, the connecting phone number management center 2 registers a phone number (or an ID) of the communication terminal in agreement in correspondence with the connecting phone number and officially delivers the connecting phone number to the communication terminal in agreement at Step S4.

The communication terminal A being a management terminal can generate a qualified community in line with a "connecting ID" delivery method with the above-described operation.

In addition, it is possible to set a charge rate at the time of issuing the connecting phone number in the mechanism of registering members shown in Fig. 1.

It is also possible to change the charge rate among the members at a later time.

Furthermore, it is possible to set a discounted course, which provides a discounted charge of the connecting phone number as shown in Table 1 below, in return to an advertising announcement at the time of use or posting an advertisement on a bulletin board described later.

25

Table 1

CONNECTING ID	COMMUNICATION TERMINAL A	COMMUNICATION TERMINAL B	COMMUNICATION TERMINAL C	COMMUNICATION TERMINAL D
XXXX	20%	20%	20%	20%
XXXX	100%	0%	0%	0%
XXXX	60%	10%	10%	20%

Fig. 2 is a block diagram showing a mechanism of message transfer of the communication system according to a first embodiment of the present invention.

In Fig. 2, there is exemplified a case where a user
5 of the communication terminal A being the management terminal sends a message file to all members of the specific community.

An operation of the message transfer of the communication system according to the present invention
10 will now be described.

First, at Step A1, the communication terminal A being the management terminal tries, as a sender, to access to the delivered connecting phone number XXXX. A message center 3 attached to the network 1 confirms that
15 the communication terminal A is a registered member of the connecting phone number XXXX to allow the communication terminal A to access to the connecting phone number. After the access is allowed, the user of the communication terminal A selects any one of a first
20 mode in which a message file to be transferred is directly sent to the other members and a second mode in which a registered member accesses to the message center 3 to receive the message file to be transferred. Next, the communication terminal A sends a message file
25 consisting of voice information, character information, image information and the like.

At Step A2, the message file sent to the message center 3 is stored in a memory in the message center 3.

At Step A3, in a case where the communication
30 terminal A selects the first mode in which the message file to be transferred is directly sent to the other

members, the message center 3 directly sends the message file to the communication terminals registered to the connecting phone number XXXX other than the communication terminal being the sender (in this case, the communication terminal A). On another case where the communication terminal A selects the second mode in which the other member accesses the message center 3, the message center 3 sends only a notice that the message file has arrived to the communication terminals registered to the connecting phone number XXXX other than the communication terminal being the sender (in this case, the communication terminal A).

At step A4, when a member registered to the connecting phone number XXXX receives the notice and accesses the message center at an arbitrary point of time, the registered member can read or hear the message file from the communication terminal A.

According to the message transfer method shown in Fig. 2, it is possible to send a message file from a specific sender to a plurality of members at a time. Furthermore, among the registered members, it is possible to communicate with a registered member using the above-described message transfer method, even if a sender does not know a phone number of the registered member.

In addition, it is possible to prevent leakage of individual phone numbers since only the connecting phone number remains in the memory of the communication terminals in the message center 3.

Fig. 3 is a block diagram showing a mechanism of a bulletin board function of the communication system according to the first embodiment of the present

invention.

Fig. 3 shows a case where a message from the user of the communication terminal A being the management terminal to all members of the specific community is
5 stored in a bulletin board 31 for the connecting phone number XXXX in the message center 3.

An operation for realizing the bulletin board function of the communication system of the present embodiment will now be described.

10 First, at Step B1, the communication terminal B which is registered to the connecting phone number XXXX accesses the connecting phone number in a message mode. A connecting phone number management center 2 attached to the network 1 allows the communication terminal B to
15 access the connecting phone number XXXX since the communication terminal B is a registered communication terminal registered to the connecting phone number XXXX. Next, the communication terminal B leaves a message consisting of voice information, character information,
20 image information and the like.

Accordingly, at Step B2, the message is stored on the bulletin board 31 for the connecting phone number XXXX, and at Step B3, the message center 3 notifies the communication terminal registered to the connecting phone
25 number XXXX except for the sender (in this case, the communication terminal B) that a new message is now on the bulletin board 31 for the connecting phone number XXXX.

At Step B4, when a user of a communication terminal
30 registered to the connecting phone number XXXX receives the notice and accesses to the bulletin board 31 of the

connecting phone number, the user of the registered communication terminal can read or hear the new message from the communication terminal A.

As another method for accessing the bulletin board
5 31 of the connecting phone number XXXX, it is also possible to select a mode in which the message is taken out from the bulletin board 31 after the communication terminal connects to the connecting phone number XXXX.

According to the method illustrated in Fig. 3, all
10 members can have a look at the logs among the members already registered to date at a time. Accordingly, there is no need to remember the other members' phone numbers and call one another among the registered members. In addition, since no one but the users of the registered
15 communication terminals can access the connecting phone number XXXX, security for the message on the bulletin board is guaranteed.

Similar to the function shown in Fig. 2, every member can communicate with the other members independent
20 from the phone number peculiar to each member.

Furthermore, a user who possesses a plurality of communication terminals can have an advantage to reduce bothersome management of the phone numbers of the plurality of communication terminals.

25 Exchange operation on the network 1 of the communication system according to the present embodiment will be described later.

(Second Embodiment)

30 Fig. 4 is a block diagram showing a configuration of a communication system and a mechanism of registering

members according to a second embodiment of the present invention.

The configuration of the network side of the communication system of the present embodiment is the same as that of the communication system of the first embodiment.

However, in the communication system of the present embodiment, an unspecified number of communication terminals (in this case, communication terminals H, J, R), which do not surely plan to be registered as members at the beginning, are included as the communication terminals (except the communication terminal A) connected to the network 1 including a Public Switched Network in a category.

In Fig. 4, only the three communication terminals H, J, R are illustrated as the communication terminals other than the communication terminal A. However, according to the present embodiment, the number of candidate communication terminals to be registered as members in accordance with the issuance of the connecting phone number is not limited generally.

An operation of registering members in the communication system according to the present embodiment will now be described.

First, at step C1, a contractant (communication terminal A) contracts in a condition of unlimited number of registrants and issue a connecting phone number XXXX. More specifically, the contractant (the communication terminal A) sends only the connecting phone number XXXX to the connecting phone number management center 2.

At Step C2, a user (unregistered user) who wishes

to register as a member accesses the connecting phone number XXXX using the communication terminal H of his/her own.

At Step C3, the contractant communication terminal
5 A being a management terminal determines whether or not the accessing communication terminal H is to be registered.

If the communication terminal A agrees to the registration of the accessing communication terminal H at
10 Step C4, the connecting phone number 2 officially issues the connecting phone number XXXX to the accessing communication terminal H at Step C5.

According to the above-described method of registering members, it is possible to add unlimited
15 number of members so that not only one small community but also a large communication world can be generated.

According to the method, a charging system can be a fixed price system in which a fixed price is set per person and this is a preferable charging system.

20 Fig. 5 is a block diagram showing a mechanism of a message transfer in the communication system according to the second embodiment of the present invention.

Fig. 5 shows a case where the user of the communication terminal A being the management terminal
25 transfers a message file to all members of the specific community.

An operation of the message transfer in the communication system according to the present embodiment will now be described.

30 First, at Step D1, the user of the communication terminal A being the management terminal tries to access

the issued connecting phone number XXXX as a sender. The message center 3 attached to the network 1 confirms that the communication terminal A is a registered member of the connecting phone number XXXX so as to allow the

5 communication terminal A to access the connecting phone number XXXX. After the access is allowed, the user of the communication terminal A selects either one of a first mode in which a message file to be transferred is directly sent to the other members and a second mode in

10 which a registered member accesses to the message center 3 to receive the message file to be transferred. Next, the communication terminal A sends a message file consisting of voice information, character information, image information and the like.

15 At step D2, the message file sent to the message center 3 is stored in a memory on the message center 3.

At step D3, in a case where the communication terminal A selects the first mode in which the message file to be transferred is directly sent to the other

20 members, the message center 3 directly sends the message file to the communication terminals registered to the connecting phone number XXXX other than the communication terminal being the sender (in this case, the communication terminal A). On another case where the

25 communication terminal A selects the second mode in which the other member accesses the message center 3, the message center 3 sends only a notice that the message file has arrived to the communication terminals registered to the connecting phone number XXXX other than

30 the communication terminal being the sender (in this case, the communication terminal A).

At step D4, when a member registered to the connecting phone number XXXX receives the notice and accesses the message center 3 at an arbitrary point of time, the registered member can read or hear the message
5 file from the communication terminal A.

According to the message transfer method shown in Fig. 5, it is possible to send a message file from a specific sender to a plurality of members at a time. Furthermore, among the registered members, it is possible
10 to communicate with a registered member using the above-described message transfer method, even if a sender does not know a phone number of the registered member.

In addition, it is possible to prevent leakage of individual phone numbers since only the connecting phone
15 number remains in the memory of the communication terminals in the message center 3.

Fig. 6 is a block diagram showing a mechanism of a bulletin board function of the communication system according to the second embodiment of the present
20 invention.

Fig. 6 shows a case where a message from the user of the communication terminal A being the management terminal to all members of the specific community is stored in a bulletin board 31 for the connecting phone
25 number XXXX in the message center 3.

An operation for realizing the bulletin board function of the communication system of the present embodiment will now be described.

First, at Step E1, the communication terminal A
30 which is registered to the connecting phone number XXXX accesses to the connecting phone number XXXX in a message

mode. A connecting phone number management center 2
attached to the network 1 allows the communication
terminal A to access the connecting phone number XXXX
since the communication terminal A is a registered
5 communication terminal registered to the connecting phone
number XXXX. Next, the communication terminal A leaves a
message consisting of voice information, character
information, image information and the like. Accordingly,
at Step E2, the message is stored on the bulletin board
10 31 for the connecting phone number XXXX, and the message
center 3 notifies the communication terminal registered
to the connecting phone number XXXX except for the sender
(in this case, the communication terminal A) that a new
message is now on the bulletin board 31 for the
15 connecting phone number XXXX.

At Step E3, when a user of a communication terminal
registered to the connecting phone number XXXX receives
the notice and accesses to the bulletin board 31 of the
connecting phone number XXXX, the user of the registered
20 communication terminal can read or hear the message file
from the communication terminal A.

As another method for accessing the bulletin board
31 of the connecting phone number XXXX, it is also
possible to select a mode in which the message is taken
25 out from the bulletin board 31 after the communication
terminal connects to the connecting phone number XXXX.

According to the method illustrated in Fig. 6, all
members can have a look at the logs among the members
already registered to date at a time. Accordingly, there
30 is no need to remember the other members' phone numbers
and call one another among the registered members. In

addition, since no one but the users of the registered communication terminals can access the connecting phone number XXXX, security for the message on the bulletin board is guaranteed.

5 Similar to the function shown in Fig. 5, every member can communicate with the other members independent from the phone number peculiar to each member.

10 In addition, since a telephone number of a new registrant will not be notified to the other members but only to the contractant (the user of the communication terminal A), it is efficiently useful when one would like to communicate with the others without giving his/her own phone number.

15 Furthermore, a user who possesses a plurality of communication terminals can have an advantage to reduce bothersome management of the phone numbers of the plurality of communication terminals.

20 (CHARACTERISTIC FEATURES COMMON IN THE FIRST AND SECOND EMBODIMENTS)

Fig. 7 is a flow chart showing an exchange operation on the network 1 in the communication system according to the first and the second embodiments of the present invention.

25 When the connecting phone number XXXX is accessed by a communication terminal on the network 1, at Step F1, the connecting phone number management center 2 determines whether or not the accessing communication terminal is a communication terminal registered in
30 correspondence to the connecting phone number XXXX, and in a case where the accessing communication terminal is a

registered one, it is allowed to access the connecting
phone number XXXX. On the other hand, in a case where
the accessing communication terminal is not the
registered one, the process goes to the below-described
5 Step F2.

At Step F2, the connecting phone number management
center 2 determines whether or not the connecting phone
number XXXX is a connecting phone number which is allowed
to have an unlimited number of communication terminals to
10 be registered thereto. In a case where the connecting
phone number XXXX is allowed to have an unlimited number
of communication terminals registered thereto, the
connecting phone number management center 2 sends a
confirmation to the contractant (the management terminal
15 of the community). In a case where the connecting phone
number XXXX is not the one which is allowed to have an
unlimited number of communication terminals to be
registered thereto, the accessing communication terminal
is refused to access the connecting phone number XXXX.

20 In the above description, the case where an
ordinary communication terminal accesses the connecting
phone number XXXX has been described. The same operation
is applicable to a case where the message center 3 or the
bulletin board 31 of the connecting phone number XXXX
25 accesses the connecting phone number XXXX.

In addition, it is also possible to combine the
connecting phone number management center 2 and the
message center 3, which are described in each of the
above-described embodiments.

30 Furthermore, it is also possible to incorporate the
bulletin board 31 of the connecting phone number XXXX

into the message center 3.

As described above, according to the present invention, members to whom a connecting phone number is issued is registered in a network, and a connecting phone number management center for managing the registered members, a message center which keeps communication data between members and sends the communication data to the other members, and a bulletin board for posting messages of the members are provided. Accordingly, it is not always necessary to know the phone numbers of the communication terminals of all registered members and it is possible to use the connecting phone number which is common in the community.

In addition, with a single access to the connecting phone number, a message file or a message can be sent or notified to all the members so that the labor and time required for the communication is dramatically reduced.

Furthermore, one can send a message file to the other members and can take in a message file addressed to him/her at any time he/she likes.

It is also possible to set or change a charge rate for the connecting phone number at the time of or after of contract.

Additionally, there is no need for a new capital investment or a contract with an Internet provider, as in the case of using the Internet.

Although the invention has been described in its preferred form with a certain degree of particularity, obviously many changes and variations are possible therein. It is therefore to be understood that the present invention may be practiced otherwise than as

WHAT IS CLAIMED IS:

1. A communication system in which a plurality of communication terminals, which are connected to a network including a Public Switched Network in a category thereof, mutually communicate through communication data addressed to a common phone number issued by a communication terminal being a management terminal, comprising:

a phone number management unit, a message management unit and a bulletin board unit provided in said network,

means for registering a predetermined communication terminal so as to correspond to said issued common phone number by sending an identification name of the predetermined communication terminals of said plurality of communication terminals to said phone number management unit in correspondence with said common phone number issued from said management terminal;

means for sending a message file sent by accessing from a registered communication terminal to said common phone number to other registered communication terminals when a first mode in which the message file is to be directly sent to the other communication terminals is selected, and leaving the message file in said message management unit and notifying the other registered communication terminals of arrival of the message file when a second mode in which any registered communication terminal accesses to said message management unit to receive the message file is selected;

means for leaving a message sent by accessing from a registered communication terminal to said common phone number on said bulletin board unit; and

means for reading at any time the message file left
in said message management unit, in a case where the
message file is left in said message management unit, and
the message left on said bulletin board unit, in a case
5 where the message is left on the unit, from an arbitrary
one of the other registered communication terminals.

2. The communication system according to claim 1,
wherein each of said communication terminals has an
10 identification name which is any one of a telephone
number, an E-mail address and an identification number
assigned to each of said communication terminal and an
identification number assigned to a medium in a case
where the communication terminal is capable of using the
15 medium.

3. The communication system according to claim 1,
wherein said message file and said message contain one or
more information mode selected from voice information,
20 character information and image information, respectively.

4. A communication system in which a plurality of
communication terminals, which are connected to a network
including a Public Switched Network in a category thereof,
25 mutually communicate through communication data addressed
to a common phone number issued by a communication
terminal being a management terminal, comprising:

a phone number management unit, a message
management unit and a bulletin board unit provided in
30 said network;

means for registering, after being accessed by an

arbitrary one of said plurality of communication terminals using said issued common phone number and receiving a confirmation by said management terminal, the arbitrary one of said communication terminals in
5 correspondence with said common phone number issued from said management terminal;

means for sending a message file sent by accessing from a registered communication terminal to said common phone number to other registered communication terminals
10 when a first mode in which the message file is to be directly sent to the other communication terminals is selected, and leaving the message file in said message management unit when a second mode in which any registered communication terminal accesses to said
15 message management unit to receive the message file is selected;

means for leaving a message sent by accessing from a registered communication terminals to said common phone number on said bulletin board unit; and

20 means for reading at any time the message file left in said message management unit, in a case where the message file is left in said message management unit, and the message left on said bulletin board unit, in a case where the message is left on said bulletin board unit,
25 from an arbitrary one of the other registered communication terminals.

5. The communication system according to claim 4, wherein each of said communication terminals has an
30 identification name which is any one of a telephone number, an E-mail address and an identification number

assigned to each of said communication terminal and an identification number assigned to a medium in a case where the communication terminal is capable of using the medium.

5

6. The communication system according to claim 4, wherein said message file and said message contain one or more information mode selected from voice information, character information and image information, respectively.

10

7. A communication method in which a plurality of communication terminals, which are connected to a network including a Public Switched Network in a category thereof, mutually communicate through communication data addressed to a common phone number issued by a communication terminal being a management terminal, wherein:

said network is provided with a phone number management unit, a message management unit and a bulletin board unit, and

20

said method comprising the steps of:

registering a predetermined communication terminal so as to correspond to said issued common phone number by sending an identification name of the predetermined communication terminal of said plurality of communication terminals to said phone number management unit in correspondence with said common phone number issued from said management terminal;

25

sending a message file sent by accessing from a registered communication terminal to said common phone number to other registered communication terminals when a first mode in which the message file is to be directly

30

sent to the other communication terminals is selected,
and leaving the message file in said message management
unit and notifying the other registered communication
terminals of arrival of the message file when a second
5 mode in which any registered communication terminal
accesses to said message management unit to receive the
message file is selected;

leaving a message sent by accessing from a
registered communication terminal to the common phone
10 number on said bulletin board unit; and

reading at any time the message file left in said
message management unit or the message left on said
bulletin board unit from an arbitrary one of the
registered communication terminals.

15

8. The communication method according to claim 7,
wherein each of said communication terminals has an
identification name which is any one of a telephone
number, an E-mail address and an identification number
20 assigned to each of said communication terminal and an
identification number assigned to a medium in a case
where the communication terminal is capable of using the
medium.

25 9. The communication method according to claim 7,
wherein said message file and said message contain one or
more information mode selected from voice information,
character information and image information, respectively.

30 10. A communication method in which a plurality of
communication terminals, which are connected to a network

including a Public Switched Network in a category thereof, mutually communicate through communication data addressed to a common phone number issued by a communication terminal being a management terminal, wherein:

5 said network is provided with a phone number management unit, a message management unit and a bulletin board unit, and

 said method comprising the steps of:

 registering, after being accessed by an arbitrary
10 one of said plurality of communication terminals using said issued common phone number and receiving a confirmation by said management terminal, the arbitrary one of said communication terminals in correspondence with said common phone number issued from said management
15 terminal;

 sending a message file sent by accessing from a registered communication terminal to said common phone number to other registered communication terminals when a first mode in which the message file is to be directly
20 sent to the other communication terminals is selected, and leaving the message file in said message management unit when a second mode in which any registered communication terminal accesses to said message management unit to receive the message file is selected;

25 leaving a message sent by accessing from a registered communication terminal to said common phone number on said bulletin board unit; and

 reading at any time the message file left in said message management unit, in a case where the message file
30 is left in said message management unit and the message left on said bulletin board unit, in a case where the

message is left on said bulletin board unit, from an arbitrary one of the other registered communication terminals.

- 5 11. The communication method according to claim 10,
wherein each of said communication terminals has an
identification name which is any one of a telephone
number, an E-mail address and an identification number
assigned to each of said communication terminal and an
10 identification number assigned to a medium in a case
where the communication terminal is capable of using the
medium.
12. The communication method according to claim 10,
15 wherein said message file and said message contain one or
more information mode selected from voice information,
character information and image information, respectively.

ABSTRACT OF THE DISCLOSURE

A common phone number which is used only among a specific group consisting of members registered in a network is ensured to enable transmitting/receiving a message file at an arbitrary point of time. A communication terminal A being a management terminal in a network 1 sends identification names of prescribed communication terminals B, C, D corresponding to an issued common phone number to a phone number management center 2 so as to register the communication terminals in correspondence with the common phone number. A message file sent from an arbitrary one of the communication terminals to the common phone number is sent to all the other registered communication terminals or left in a message center 3 and the arrival of the message file is notified to all the other registered communication terminals. A message sent from an arbitrary one of the communication terminals to the common phone number is left on a bulletin board 31. An arbitrary one of the registered communication terminals reads the message file left in the message center 3 or the message left on the bulletin board 31 at any time he/she wants.

FIG. 1

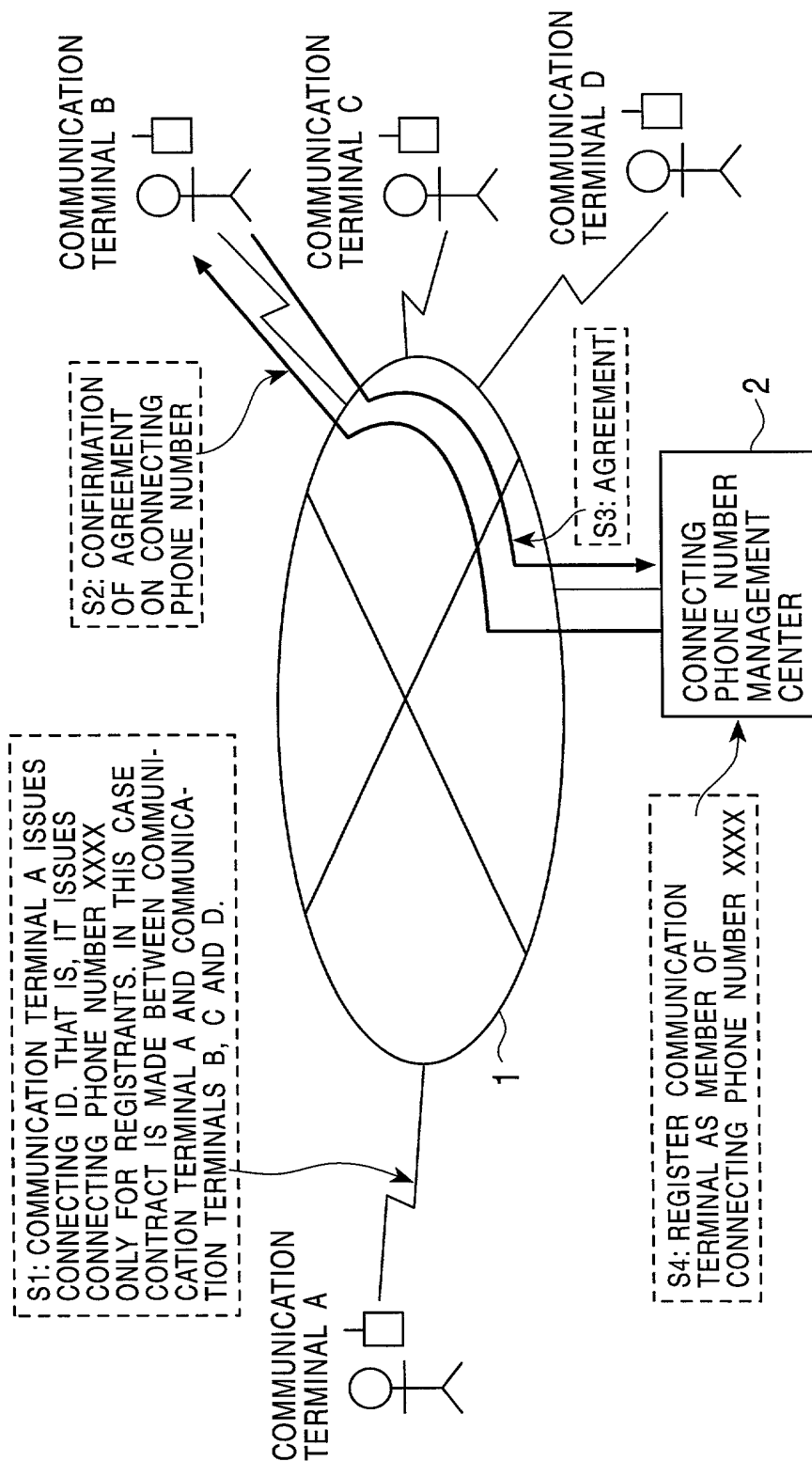


FIG. 2

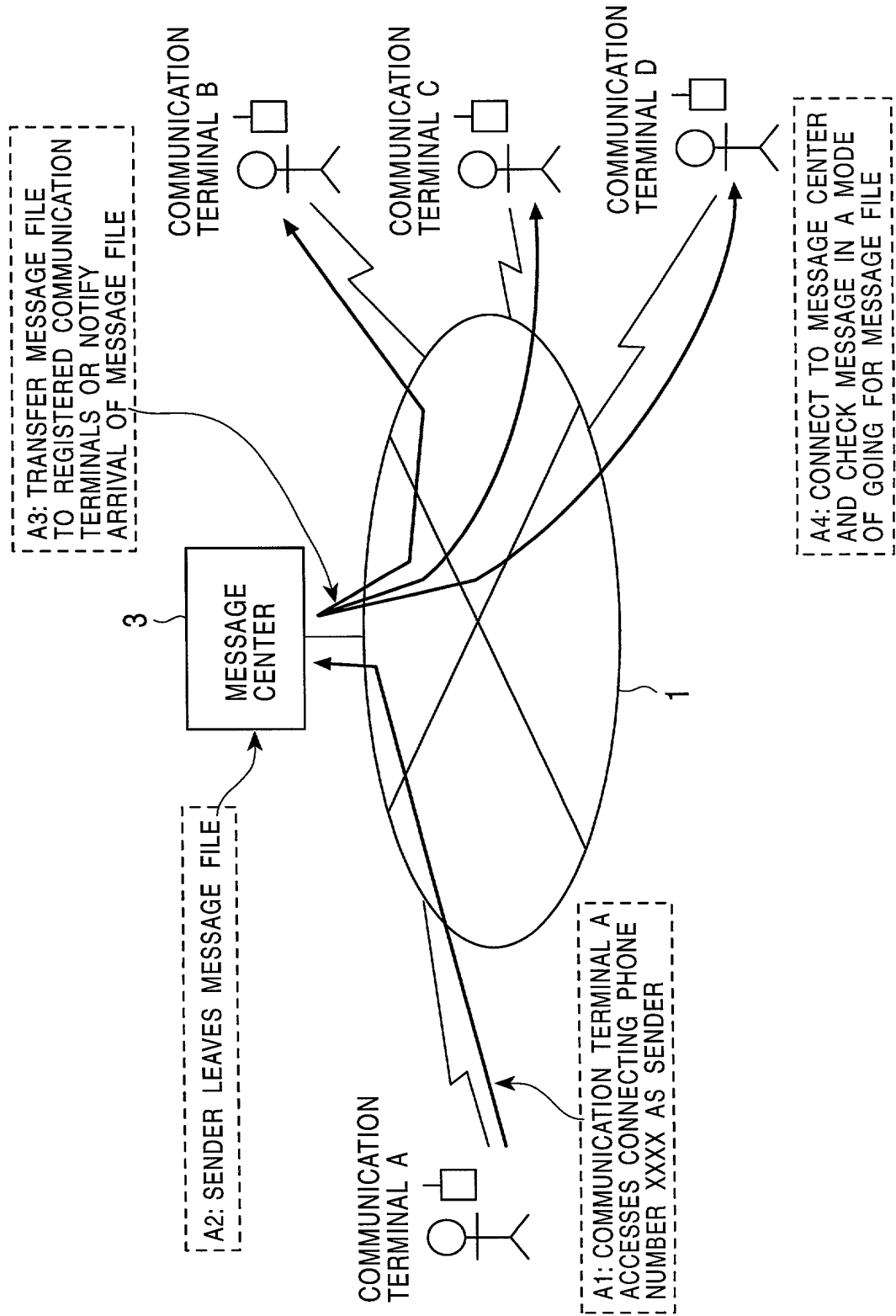


FIG. 3

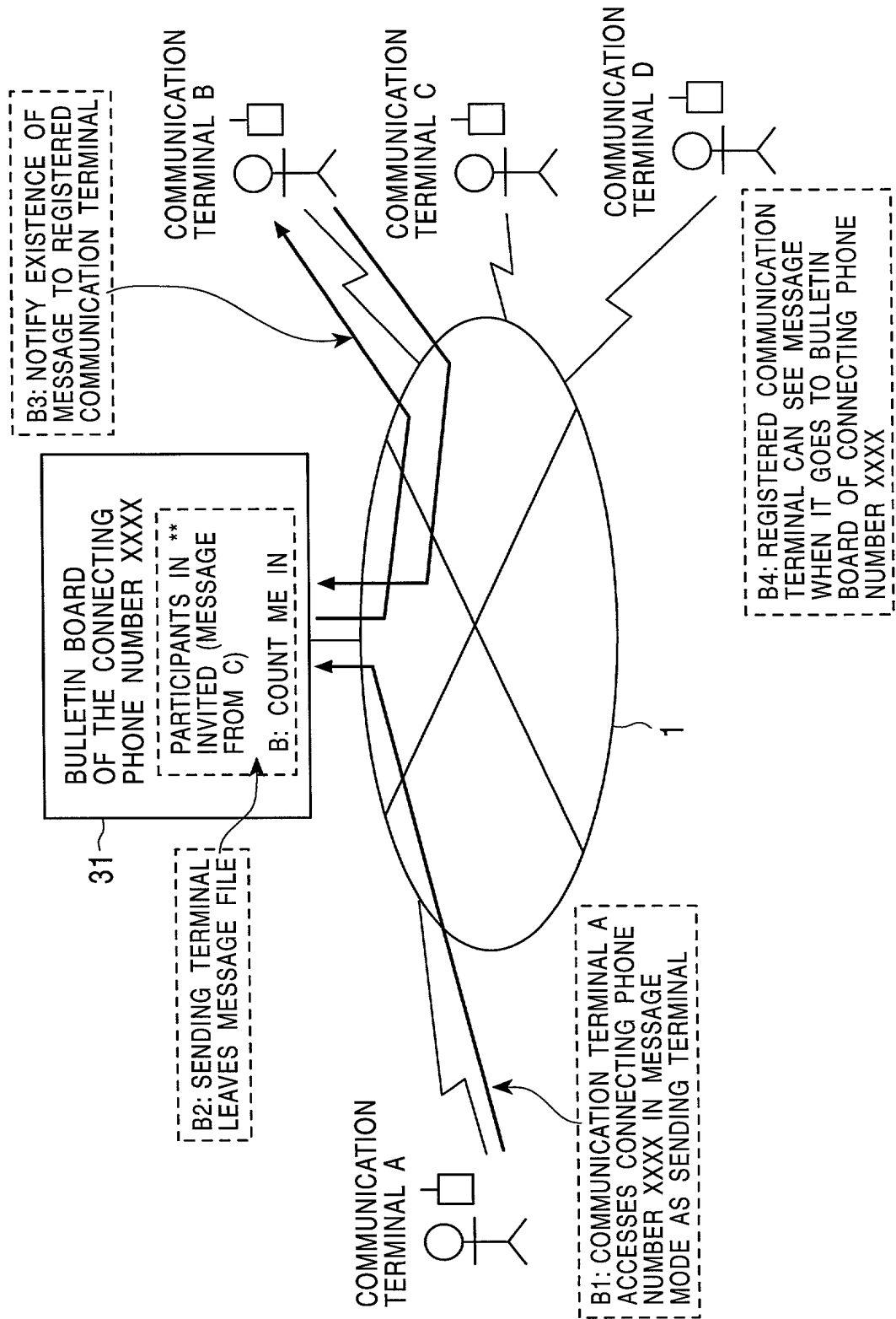


FIG. 4

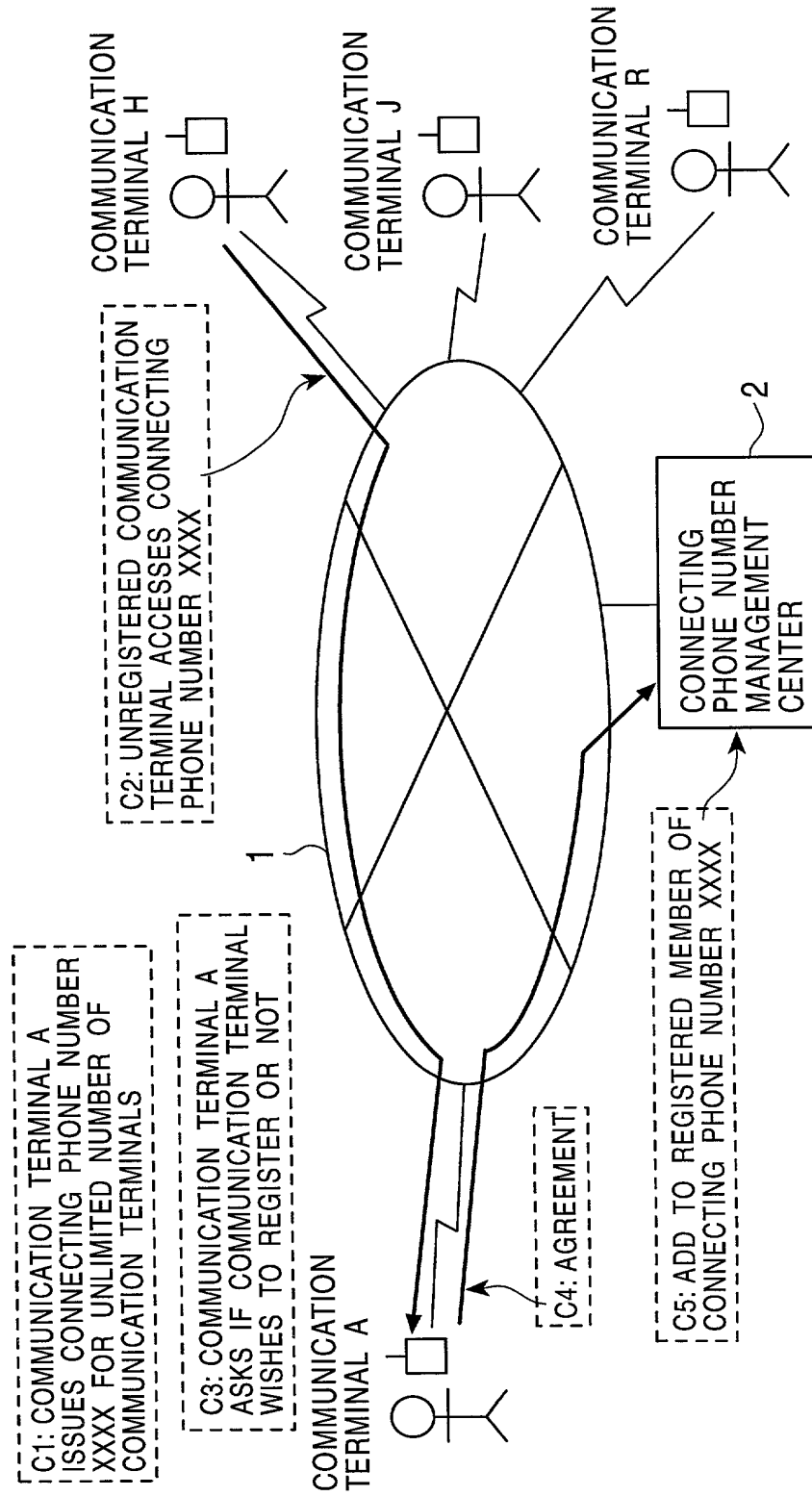


FIG. 5

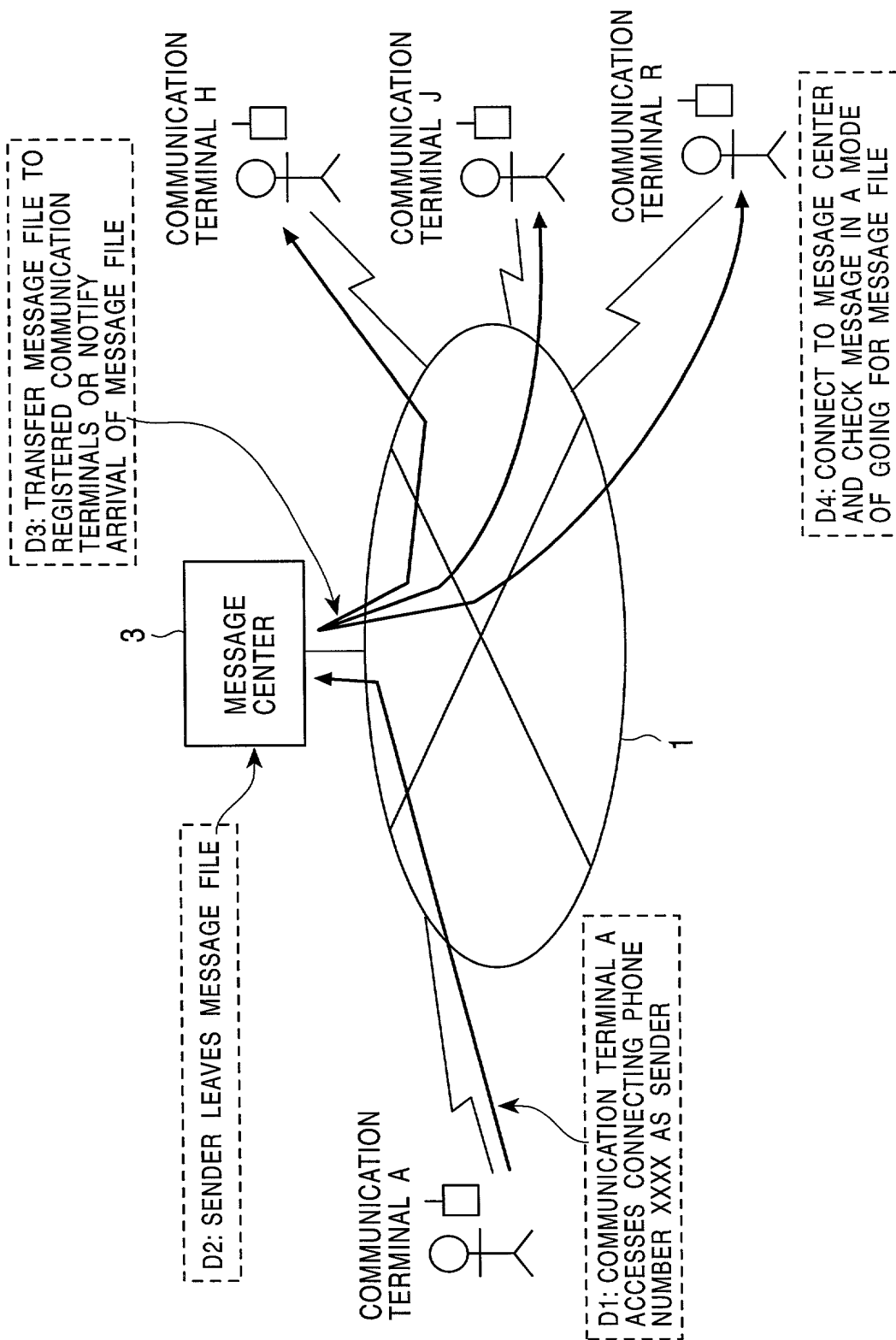


FIG. 6

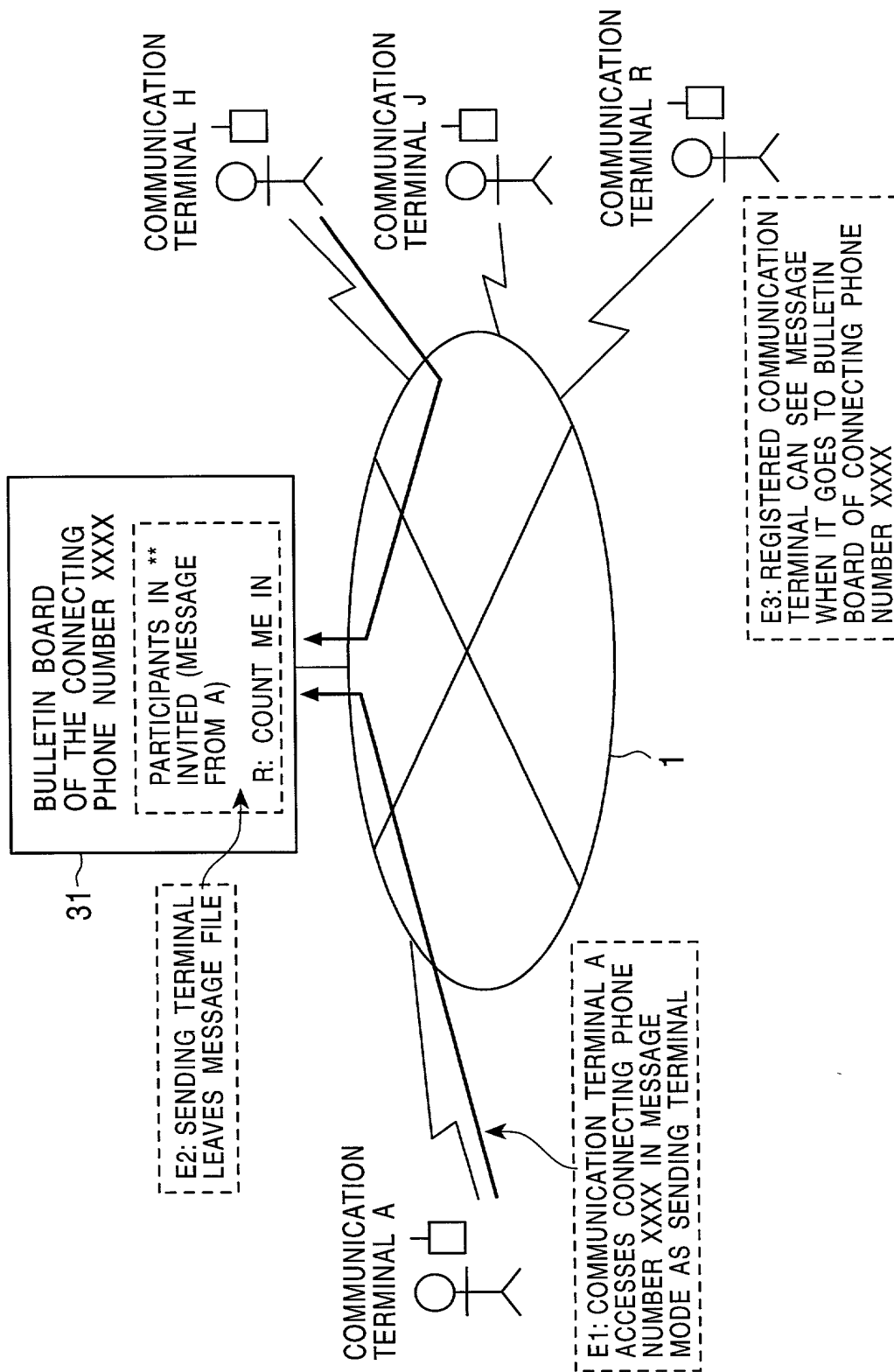
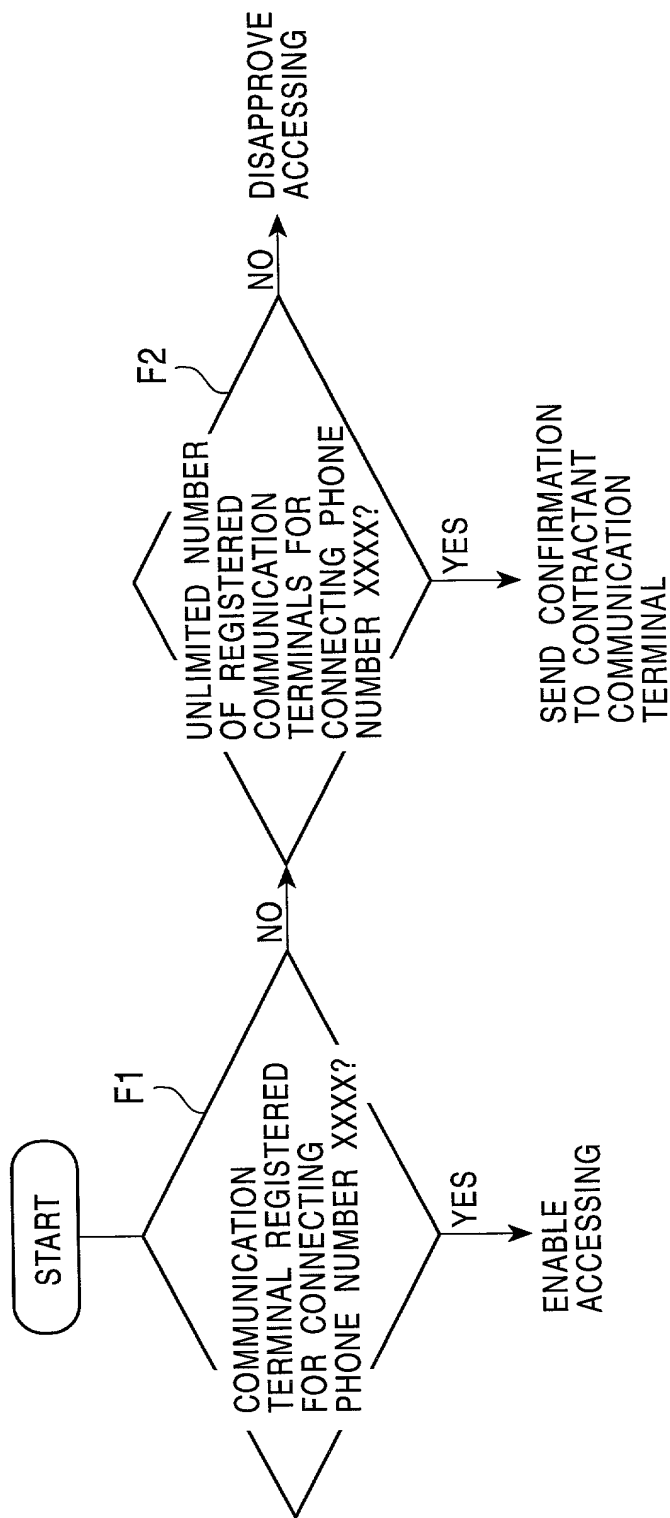


FIG. 7



Declaration and Power of Attorney For Patent Application

特許出願宣言書及び委任状

Japanese Language Declaration

日本語宣言書

下記の氏名の発明者として、私は以下の通り宣言します。	As a below named inventor, I hereby declare that:
私の住所、私書箱、国籍は下記の私の氏名の後に記載された通りです。	My residence, post office address and citizenship are as stated next to my name.
<p>下記の名称の発明に関して請求範囲に記載され、特許出願している発明内容について、私が最初かつ唯一の発明者（下記の氏名が一つの場合）もしくは最初かつ共同発明者であると（下記の名称が複数の場合）信じています。</p> <p>_____</p>	<p>I believe I am the original, first and sole inventor (if only one named is listed below) or an original, first and joint inventor (if plural names are listed below) of the subject matter which is claimed and for which a patent is sought on the invention entitled: COMMUNICATION SYSTEM AND COMMUNICATION METHOD SHARING COMMUNICATION DATA AMONG A PLURALITY OF COMMUNICATION TERMINALS</p>
<p>上記発明の明細書（下記の欄でx印がついていない場合は、本書に添付）は、</p> <p><input type="checkbox"/> 月 日に提出され、米国出願番号または特許協定条約国際出願番号を _____ とし、 （該当する場合） _____ に訂正されました。</p>	<p>the specification of which is attached hereto unless the following box is checked:</p> <p><input type="checkbox"/> was filed on _____ as United States Application Number or PCT International Application Number _____ and was amended on _____ (if applicable).</p>
私は、特許請求範囲を含む上記訂正後の明細書を検討し、内容を理解していることをここに表明します。	I hereby state that I have reviewed and understand the contents of the above identified specification, including the claims, as amended by any amendment referred to above.
私は、連邦規則法典第37編第1条56項に定義されたとおり、特許資格の有無について重要な情報を開示する義務があることを認めます。	I acknowledge the duty to disclose information which is material to patentability as defined in Title 37, Code of Federal Regulations, Section 1.56.
私は、米国法典第35編119条(a)-(d)項又は365条(b)項に基づき下記の、米国以外の国の少なくとも一ヶ国を指定している特許協力条約365(a)項に基づき国際出願、又は外国での特許出願もしくは発明者証の出願についての外国優先権をここに主張するとともに、優先権を主張している、本出願の前に出願された特許または発明者証の外国出願を以下に、枠内をマークすることで、示しています。	I hereby claim foreign priority under Title 35, United States Code, Section 119(a)-(d) or 365(b) of any foreign application(s) for patent or inventor's certificate, or 365(a) of any PCT International application which designated at least one country other than the United States, listed below and have also identified below, by checking the box, any foreign application for patent or inventor's certificate, or PCT International application having a filing date before that of the application on which priority is claimed.

S00P1148US00

Japanese Language Declaration

日本語宣言書

<p>Prior Foreign Application(s) 外国での先行出願</p> <p>P11-275715 (Number) (番号)</p> <p>Japan (Country) (国名)</p> <p>29/09/1999 (Day/Month/Year Filed) (出願年月日)</p>	<p>Priority Not Claimed 優先権主張なし</p>
<p>私は、第35編米国法典119条(e)項に基づいて下記の米 国特許出願規定に記載された権利をここに主張いたします。</p> <p>(Application No.) (出願番号)</p> <p>(Filing Date) (出願日)</p>	<p>I hereby claim the benefit under Title 35, United States Code, Section 119(e) of any United States provisional application(s) listed below.</p> <p>(Application No.) (出願番号)</p> <p>(Filing Date) (出願日)</p>
<p>私は、下記の米国法典第35編120条に基づいて下記の米 国特許出願に記載された権利、又は米国を指定している特許 協力条約365条(c)に基づき権利をここに主張します。また、本出願の各請求範囲の内容が米国法典第35編112条 第1項又は特許協力条約で規定された方法で先行する米国特 許出願に開示されていない限り、その先行米国出願書提出日 以降で本出願書の日本国内または特許協力条約国際提出日ま での期間中に入手された、連邦規則法典第37編1条56項 で定義された特許資格の有無に関する重要な情報について開 示義務があることを認識しています。</p> <p>(Application No.) (出願番号)</p> <p>(Filing Date) (出願日)</p>	<p>I hereby claim the benefit under Title 35, United States Code, Section 120 of any United States application(s), or 365(c) of any PCT International application designating the United States, listed below and, insofar as the subject matter of each of the claims of this application is not disclosed in the prior United States or PCT International application in the manner provided by the first paragraph of Title 35, United States Code, Section 112, I acknowledge the duty to disclose information which is material to patentability as defined in Title 37, Code of Federal Regulations, Section 1.56 which became available between the filing date of the prior application and the national or PCT International filing date of application.</p> <p>(Status: Patented, Pending, Abandoned) (現況: 特許許可済、係属中、放棄済)</p> <p>(Status: Patented, Pending, Abandoned) (現況: 特許許可済、係属中、放棄済)</p>

Japanese Language Declaration

日本語宣言書

私は、私自身の知識に基づいて本宣言書中で私が行なう表明が真実であり、かつ私の入手した情報と私の信じることに基づく表明が全て真実であると信じていること、さらに故意になされた虚偽の表明及びそれと同等の行為は米国法典第18編第1001条に基づき、罰金または拘禁、もしくはその両方により処罰されること、そしてそのような故意による虚偽の声明を行なえば、出願した、又は既に許可された特許の有効性が失われることを認識し、よってここに上記のごとく宣誓を致します。

I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such willful false statements may be jeopardize the validity of the application or any patent issued thereon.

S00P1148US00

Japanese Language Declaration

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委任状： 私は下記の発明者として、本出願に関する一切の
手続きを米特許商標局に対して遂行する弁理士または代理人
として、下記の者を指名いたします。（弁理士、または代理
人の氏名及び登録番号を明記のこと）

POWER OF ATTORNEY: As a named inventor, I hereby
appoint the following attorney(s) and/or agent(s) to prosecute
this application and transact all business in the Patent and
Trademark office connected therewith (*list name and
registration number*)

Karl A. Limbach	18,689	Steven M. Everett	30,050	Cameron A. King	41,897
George C. Limbach	19,305	Alfred A. Equitz	30,922	Kyla L. Harriel	41,815
John K. Uilkema	20,282	Charles P. Sammut	28,901	Mayumi Maeda	40,075
Neil A. Smith	25,441	Mark C. Pickering	36,239	Michael R. Ward	38,651
Veronica C. Devitt	29,375	Patricia Coleman James	37,155	Roger S. Sampson	44,314
Ronald L. Yin	27,607	Kathleen A. Frost	37,326	Charles L. Hamilton	42,624
Gerald T. Sekimura	30,103	Alan A. Limbach	39,749	Andrew V. Smith	43,132
Michael A. Stallman	29,444	Douglas C. Limbach	35,249	Eric N. Hoover	37,355
Philip A. Girard	28,848	Seong-Kun Oh*		J. Thomas McCarthy	22,420
Michael J. Pollock	29,098			Joel G. Ackerman	24,307

* Recognition under 37 CFR 10.9(b)

書類送付先

Send Correspondence to:

Charles P. Sammut, Esq.
Limbach & Limbach L.L.P.
2001 Ferry Building
San Francisco, CA 94111-4262

直接電話連絡先：（名前及び電話番号）

Direct Telephone Calls to: (*name and telephone number*)

Charles P. Sammut
(415) 433-4150

唯一または第一発明者名

Full name of sole or first inventor:


YUKA SAKAZUME

発明者の署名

日付

Inventor's signature

Date



17/08/2000

住所

Residence

KANAGAWA, JAPAN

国籍

Citizenship

JAPANESE

私書箱

Post Office Address

c/o SONY CORPORATION
7-35, Kitashinagawa 6-chome
Shinagawa-ku, Tokyo, 141-0001 JAPAN